

REMARKS

Claims 1-7 have been examined in the present application.

I. Drawings

The Examiner has objected to the drawings. In particular, the Examiner asserts that the drawings do not show every feature of the invention as specified in the claims. The Examiner alleges that the center lines of the brush, the regulator, and the connector disposed on substantially the same plane extending in a radial direction, and additionally, the rectifier disposed substantially line symmetrical to the same plane, as recited in claim 1, are not shown in the drawings. Applicants respectfully disagree.

For example, Figure 1 depicts a cross section of the automotive alternator, wherein the cross section is taken along the plane passing through a center axis of the shaft 5 and extending in a radial direction. As shown in Figure 1, the brush holder 11, regulator 14, and connector 22 are disposed in the same plane (i.e., the plane of the paper on which Figure 1 is printed).

Further, as can be seen, for example, in Figure 7, the plane that passes through the center axis of the shaft 5 and extends in a radial direction also passes through the center lines of the regulator 14, brush 10, and connector 22. In Figure 7, this plane is a straight line, since only the cross-section of the plane would be visible from the perspective of Figure 7. The rectifier 12 is disposed symmetrically about this line (i.e., the cross-section of the plane). That is, the rectifier 12 is line symmetrical to the plane.

In addition, the Examiner objects to Figures 19-23. Figures 19-23 have been amended to include the designation "Prior Art". Applicants submit that these amendments obviate this

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objection, and therefore, request approval of Figures 19-23 in the next official correspondence. In addition, Applicants are submitting herewith Formal Drawings incorporating the proposed drawing corrections and request entry of the same.

II. Title of the Invention

The Examiner objects to the title of the invention as not being descriptive. Applicants respectfully disagree. In particular, Applicants submit that the present title is clearly indicative of the invention to which the claims are directed. That is, Applicants invention relates to a new and unique combination of elements that form an automotive alternator. Applicants submit that the title (while brief) is technically accurate and descriptive, and therefore, it is not necessary to amend the title. However, if the Examiner maintains that the present title does not adequately describe the claimed invention, Applicants respectfully request the Examiner to provide suggestions for amending the title to more clearly describe the invention. For these reasons, Applicants have not amended the title at this time and respectfully request this objection to be withdrawn.

III. Written Description Rejections

The Examiner rejects claims 1-7 under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. In particular, the Examiner alleges that the center lines of the brush, the regulator, and the connector disposed on approximately the same plane in a radial direction and the rectifier disposed approximately line symmetrical to the plane are neither

shown in the drawings nor described in the specification in a clear and concise manner. For the following reasons, Applicants traverse this rejection.

Applicants submit that the claimed invention has been described with sufficient particularity such that one skilled in the art would recognize that Applicant had possession of the claimed invention at the time of the invention. For example, claim 1 (as originally filed) recites, *inter alia*, “wherein said regulator and said brush are disposed so as to overlap in an axial direction, and center lines of said brush, said regulator and said connector are disposed on an approximately same plane extending in a radial direction, said rectifier is disposed approximately line symmetrical to said same plane”. This recitation is clearly and particularly described in both the disclosure and the drawing figures. For example, the original disclosure describes center lines of the brush holder 11, regulator 14, and connector 22 being disposed on the same plane passing through a center axis of the shaft 5 and extending it in a radial direction (see pages 11-12, bridging paragraph). That is, as shown in Figure 1, the brush holder 11, regulator 14, and connector 22 are disposed on the same plane (i.e., the plane of the paper). Figure 1 depicts a cross section of the automotive alternator, wherein the cross section is taken along the plane passing through a center axis of the shaft 5 and extending in a radial direction. Thus, as shown in Figure 1, the brush holder 11, regulator 14, and connector 22 are disposed in the same plane (i.e., the plane of the paper on which Figure 1 is printed). Therefore, for at least these reasons, Applicants submit that a person skilled in the art would clearly understand that Applicants were in possession of the claimed invention at the time of the invention.

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Claim 1 (as originally filed) further recites that the rectifier is disposed approximately line symmetrical to said same plane. In addition, the original disclosure describes that the rectifier 12 is disposed approximately line symmetrical to the same plane as the center lines of the regular 14, brush 10, and the connector 22. For example, with reference to Figure 7, the plane that passes through the center axis of the shaft 5 and extends in a radial also passes through the center lines of the regulator 14, brush 10, and connector 22. In Figure 7, this plane would be a straight line, since only the cross-section of the plane would be visible from the perspective of Figure 7. The rectifier 12 is disposed symmetrically about this line (i.e., the cross-section of the plane). That is, the rectifier is line-symmetrical to the plane. Therefore, Applicants submit that a person of ordinary skill in the art would clearly understand that Applicants were in possession of the claimed invention at the time of the invention and that the claimed invention is described with sufficient particularity.

IV. Enablement Rejections

The Examiner rejects claims 1-7 under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. For the following reasons, Applicants traverse this rejection.

As set forth above, the features of Applicants claimed invention are not only described in the original claims, specification, and drawing figures, but also are described with sufficient particularity such that a person skilled in the art to which it pertains would clearly understand how to make and/or use the invention. For example, with reference to Figures 1, 4-10, and 13-

18, the original detailed description of the present invention clearly describes, with sufficient particularity, the claimed invention such that a person of ordinary skill in the art would be able to make and/or use the claimed invention. That is, the detailed drawings depicting the arrangement of the features of the automotive alternator according to the present invention, together with the written disclosure of the invention, clearly provide sufficient particularity for a person of skill in the art to make and use the invention.

Therefore, Applicants submit that the rejections under 35 U.S.C. § 112, first paragraph, should be withdrawn.

V. Indefiniteness Rejections

The Examiner rejects claims 1-7 under 35 U.S.C. § 112, second paragraph, as being indefinite. For the following reasons, Applicants traverse this rejection.

Applicants submit that claim 1 has been amended to more clearly and particularly define Applicants invention. For example, “disposed approximately line symmetrical” has been amended to recite “disposed substantially line symmetrical.” Therefore, for at least this reason, Applicants submit that claim 1 is definite and the rejection of this claim should be withdrawn.

In addition, Applicants respectfully submit that a person of skill in the art would clearly understand Applicants’ claimed invention.

For example, claim 1 recites, *inter alia*, a plurality of intake holes formed in the case at a position corresponding to the rectifier. Additionally, claim 1 recites, *inter alia*, that the plurality of intake holes are disposed at a side of the case where the fan of the motor is mounted. As

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shown in Figures 1 and 6, the intake holes E are positioned corresponding to the rectifier 12 and are positioned such as that the air entering the intake holes faces the rectifier 12. That is, the position of the intake holes E corresponds to the area of the rectifier 12, but, the intake holes E do not correspond to areas where the rectifier 12 is absent. Thus, Applicants submit that a person of ordinary skill in the art clearly would understand the claimed invention, and therefore, claims 1-7 are definite and the rejection of these claims should be withdrawn.

V. Claim Rejections Under Prior Art Grounds

The Examiner rejects claims 1-7 under 35 U.S.C. § 102(e) as being anticipated by Kashihara et al (US Patent No.6,081,054). As a preliminary matter, Applicants submit that Kashihara does not qualify as prior art under 35 U.S.C. § 102(e). Instead, Applicants submit that Kashihara properly qualifies as prior art under 35 U.S.C. § 102(b), since Kashihara issued prior to Applicants' priority date. Therefore, for purposes of this response, Applicants will treat this rejection as being based on 35 U.S.C. § 102(b).

For the following reasons, Applicants traverse this rejection. Applicants claim 1 defines a new and unique combination of elements that form an automotive alternator. Claim 1 recites, *inter alia*, that "said regulator and said brush are disposed so as to overlap in an axial direction, and center lines of said brush, said regulator and said connector are disposed on substantially a same plane extending in a radial direction". For example, in an illustrative, non-limiting embodiment, Applicants disclose that the regulator 14 and brush 10 are disposed so as to overlap each other in an axial direction of the shaft. (see, e.g., Figures 1, 4, and 5). Further, a plane

passing through the shaft and extending radially passes through the center lines of the brush, the regulator, and the connector (see, e.g., Figures 1 and 4).

In comparison, Kashiwara discloses that the direction of extension L2 of the connecting terminals 23a of the connecting portion 23 (the axial direction of the connector portion 23) points towards the center of the shaft receiving portion 19 (see col. 5, line 64-col. 6, line 1; see also Figure 1). In addition, as shown in Figure 1, the longitudinal direction L1 of the cooling fans of the heat sink 17 (the longitudinal direction of the cooling fan in the center) also points towards the center of the shaft receiving portion 19. The connector portion 23, the circuit housing portion 22, and the condenser housing portion 24 are arranged circumferentially such that the longitudinal direction L1 of the cooling fans of the heat sink 17 and the direction of extension L2 of connecting terminals 23a of the connector portion 23 point towards the center of the shaft receiving portion 19 (see col. 6, line 62-col. 7, line 6).

That is, as shown in Figure 1 of Kashiwara, the brush 10 is disposed in the plane L1 extending in a radial direction. In contrast, the center line of the connecting portion 23 is disposed along the plane L2 extending in a different radial direction. Thus, the center line of the brush and the center line of the connecting portion are disposed on different planes (i.e., L1 and L2 as shown in Figure 1) that extend in different radial directions, not on substantially the same plane extending in a radial direction, as recited in independent claim 1. Therefore, Kashiwara neither discloses, teaches, nor suggests all of the recitations of independent claim 1 and the rejections under 35 U.S.C. § 102(b) of independent claim 1 and claims 2-7 (which depend from claim 1) should be withdrawn.

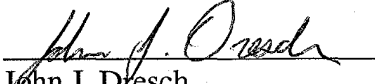
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In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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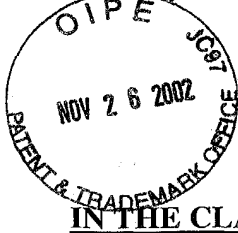
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Date: November 26, 2002

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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

1. (Amended) An automotive alternator comprising:

a shaft supported in a case so as to be capable of rotating;

a rotor housed in said case and comprising a plurality of magnetic poles fixed to said shaft, a field winding, and a fan fixed to at least one axial end of said magnetic poles; a stator fixed to said case so as to be positioned at an outer circumference of said rotor and comprising a core and a winding wound in said core, and provided with coil ends formed by bending back said winding at ends of said core;

a rectifier disposed in said case and comprising a rectifying element for rectifying an ac generated by said stator to a dc and a heat dissipating plate for dissipating heat generated by said rectifying element;

a regulator disposed in said case for adjusting a magnitude of the ac voltage generated by said stator;

a brush disposed in said case so as to advance and retreat in a radial direction of said rotor and one end thereof contacting said rotor to supply a field current to said field winding of said rotor;

a connector for mounting an external plug; and

said case containing a plurality of intake holes at a side where said fan of said rotor is mounted, and cooling air drawn in from said intake holes is bent in a centrifugal direction after cooling said rectifier to ventilate and cool said coil ends;

wherein[,] said regulator and said brush are disposed so as to overlap in an axial direction, and center lines of said brush, said regulator and said connector are disposed on substantially a[an approximately] same plane extending in a radial direction, said rectifier is

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disposed substantially[approximately] line symmetrical to said same plane, and said plurality of intake holes are formed in said case at a position corresponding to said rectifier.

2. (Amended) An automotive alternator according to Claim 1 wherein:

said regulator and said brush are disposed substantially[approximately] point symmetrical with said connector with said shaft as a center, and center lines of said regulator, said brush, and said connector[these three] are disposed on substantially said[an approximately] same plane extending in a radial direction.

3. (Amended) An automotive alternator according to Claim 1 wherein:

said connector is disposed at substantially an[an approximately] outer circumferential-side of said regulator and said brush, and center lines of said connector, said regulator and said brush are disposed on substantially said[an approximately] same plane extending in a radial direction.

4. (Amended) An automotive alternator according to Claim 1 wherein:

[said regulator and said brush are disposed so as to overlap in an axial direction,] said connector is disposed so as to further overlap said regulator and said brush in an axial direction, and center lines of said regulator, said brush, and said connector are disposed on substantially said[an approximately] same plane extending in a radial direction.